ARIZONA DEPARTMENT OF TRANSPORTATION

Mission Statement

To provide products and services for a safe, efficient, cost-effective transportation system that links Arizona to the global economy, promotes economic prosperity and demonstrates respect for Arizona's environment and quality of life.

INTERMODAL TRANSPORTATION DIVISION

"The Intermodal Transportation Division is dedicated to continually improve the safety, efficiency and quality of Arizona's highway system and it's intermodal connections."

The primary functions of the Intermodal Transportation Division are to develop and operate the Transportation Infrastructure.

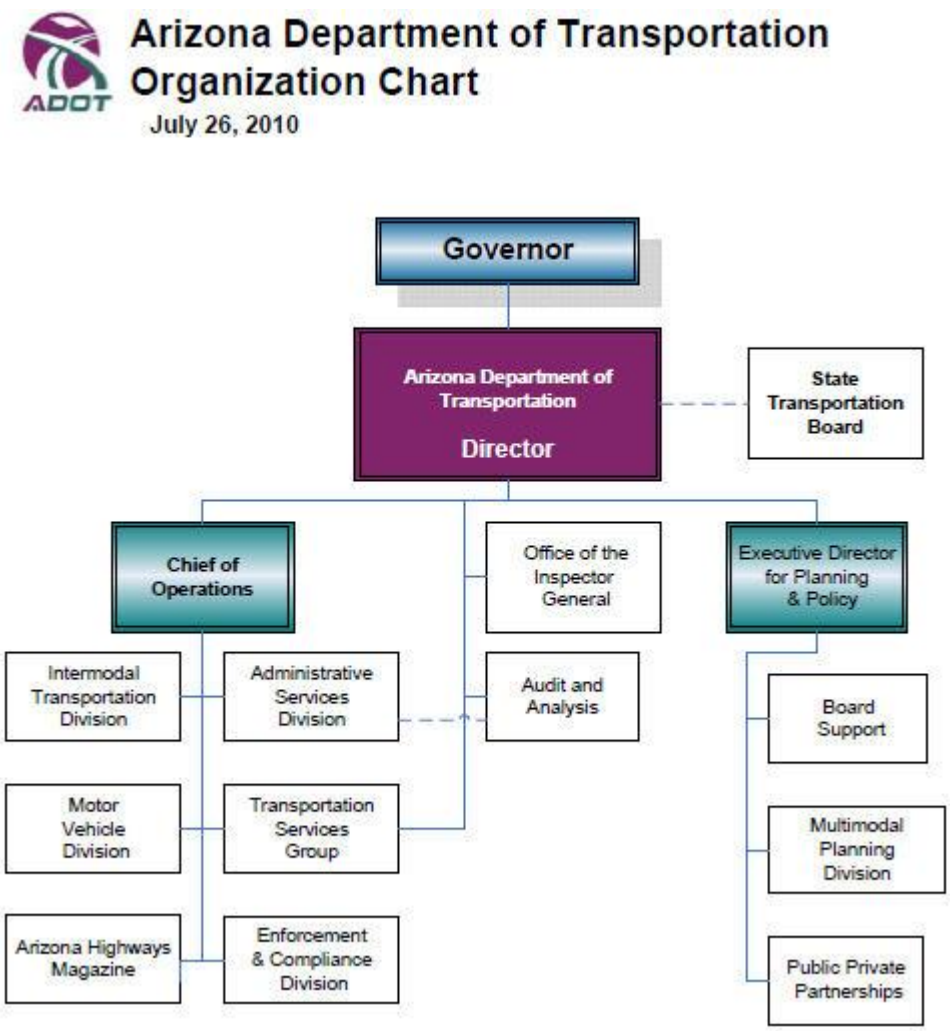

Exhibit 100-a. ADOT Org Chart

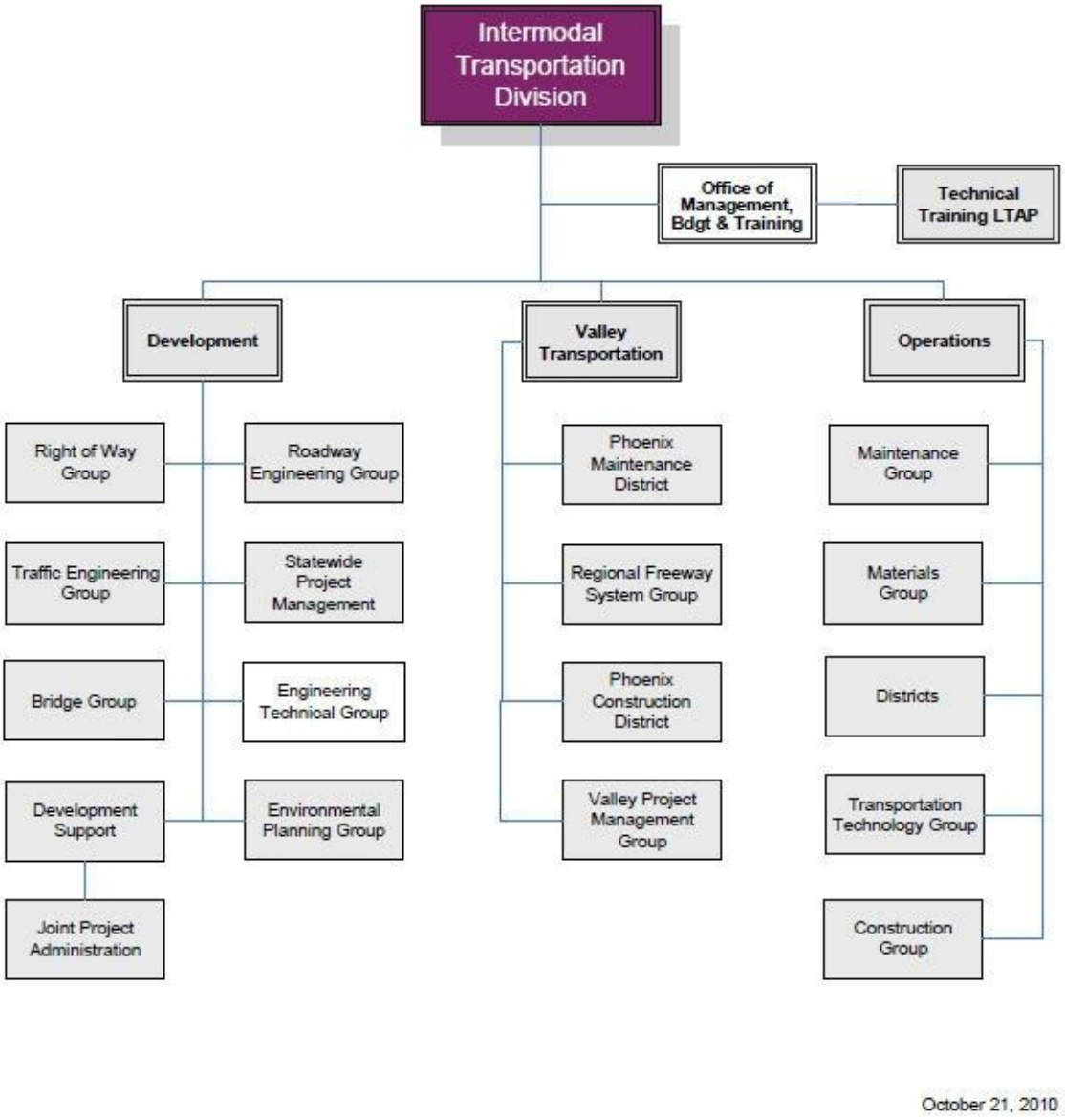

Exhibit 100-b. Intermodal Transportation Division Org Chart

100 GENERAL

Department Organization

The Arizona Department of Transportation is one of the oldest state agencies dating back to territorial days. At the time of statehood, it was called the Arizona Highway Department and was managed out of a single office in Phoenix. In 1955, the Arizona Highway Department created four District Offices. Each District Office was assigned a region of the state with the duties of constructing and maintaining the roads and bridges within that district. Even today, this district operational structure is still part of the Department's organization.

In 1974, the state legislature merged the Arizona Highway Department with the Arizona Aeronautics Department to form the Arizona Department of Transportation (ADOT). Exhibit 100-a shows the current organizational structure of ADOT.

The Transportation Director is appointed by the Governor and leads the Department in implementing transportation policy mandated by state law. An independent seven-member Transportation Board is the primary policy-making and governing body for the Department. The Transportation Board determines project priorities, awards construction contracts, presides over the State Highway System, makes local airport grants, and advises the Transportation Director on transportation policy matters. The six members are appointed by the Governor and represent geographical districts in Arizona, with one member serving on an at-large basis.

The Department's Chief of Operations leads six major areas (Intermodal Transportation Division, Administrative Services Division, Motor Vehicle Division, Transportation Support Group, Arizona Highways Magazine and the Enforcement & Compliance Division. The Executive Director for Planning & Policy provides Transportation Board support and leads the Multimodal Planning Division and the Public Private Partnership component. Exhibit 100-b shows the organizational structure of the Intermodal Transportation Division, the largest ADOT division. There are three branches in the division (Development, Valley Transportation, and Operations). Each branch is divided into several groups. The groups that have the greatest interaction with construction are Materials, Bridge, Traffic Engineering, Roadway Engineering, Right-of-way, Construction, Environmental Planning, Project Management, and District Operations.

The responsibility for the development and design of each highway project is shared among the Materials Group, the Bridge Group, the Traffic Group, the Roadway Engineering Group, and the Right-of-Way Group. Operations, which includes all the districts outside the Phoenix area, and Valley Transportation, which is responsible for the Phoenix area, are charged with the responsibility for constructing and maintaining the State Highway System.

The key activities of each group and their role in assisting ADOT construction personnel are summarized on the following pages.

Materials Group

The Materials Group conducts research into construction materials and methods, performs geotechnical investigations, develops pavement sections for use in new projects, develops test methods, acts as the reference laboratory for the district and project laboratories, designs asphaltic and Portland cement concrete pavements, evaluates proposed new materials, and performs tests that cannot be accomplished in the district or project laboratories.

The Materials Group monitors the tests performed by the project and the regional laboratories and consults with the districts and projects to maintain uniform testing procedures. Special reference tests are prepared and sent to regional laboratories to check testing procedures. Periodic checking of test equipment in the district and

project laboratories is done to maintain the accuracy of the equipment.

Bridge Group

If the project includes any major structure, such as a bridge or box culvert, the Bridge Group is there to support ADOT construction personnel by providing technical expertise on structural concrete and structural steel construction. Usually the Designer is consulted first when plans and details require interpretation. However, when major specifications changes are needed or when construction and design standards are to be modified, the Bridge Group should be consulted.

The Bridge Group oversees the inspection of steel sign structure fabrication and sets policy regarding bridge construction standards.

Traffic Engineering Group

Many construction projects have traffic control, signing, striping, lighting, and/or signalization issues. The Traffic Engineering Group sets traffic control policy on a statewide basis.

The Traffic Engineering Group reviews all project shop drawings for traffic signals and lighting poles, as well as electrical submittals regarding lighting, signing, the freeway management system (FMS), and signalization. Traffic Engineering maintains traffic counts and accident data for the State Highway System.

Right-Of-Way Group

The Right-of-way Group can be a valuable resource to ADOT's field construction staff. They maintain right-of-way (ROW) plans for all roadways and can provide information about property ownership around your project. Right-of-way can tell you what agreements ADOT has with adjacent landowners for temporary access, rights-of-entry, and construction easements. Information is available on ADOT's property rights and responsibilities. The Right-of-way Group has a Property Management Section that manages all properties owned by ADOT.

Roadway Engineering Group

This group performs the engineering studies and roadway designs necessary to bring a project from inception to construction. Engineering consultants perform this function when the Roadway Group lacks the necessary resources. The Roadway Group develops statewide policies and standards for roadway design and construction details. Roadway is a great source of information when a change made on the project must conform to current highway standards. This could involve a change to shoulder widths, stopping sight distances, or guardrail lengths. Roadway Group publishes the ADOT Construction Standard Drawings (C-Standards).

Environmental Planning Group

The Environmental Planning Group, is an important source of information on current environmental regulations, including the requirements of the National Pollutant Discharge Elimination System (NPDES) and Storm Water Pollution Prevention Plan (SWPPP) regulations. Environmental Planning can answer any questions concerning environmental regulations and historical preservation.

Construction Group

The Construction Group provides supplementary human resources to help manage construction projects. Other special services to construction personnel can be provided as needed by the Assistant State Construction Engineer through the assignment of personnel from other groups or divisions. Such services include standards and specifications revisions, construction policy development, claim analysis, construction publications, reference material, and new-product implementation and material use.

The Construction Group consists of Consultant Contract Administration, Value and Quality Assurance, Field Reports, and the EIT Program.

The Consultant Contract Administrator is responsible for developing, negotiating and monitoring contracts that provide ADOT districts with construction administrative services that supplement their workforce with temporary technicians, construction administrative services and material testing assistance.

Value and Quality Assurance is comprised of Value Analysis and Construction Operations.

The Construction Operations Section performs overview inspections of active construction projects to assure that workmanship, materials, inspection, and documentation are in compliance with ADOT requirements. In order to accomplish these tasks, the Section develops and maintains the Construction Group's Quantlist program. On federal aid projects, FHWA Certification Acceptance (CA) inspections are performed. The information gained from these inspections is used to update and optimize construction standards, specifications, and procedures. Construction Operations provides assistance in the training of field construction personnel, furnishing technical and administrative assistance to all construction personnel for completing consistent documentation to assist with contract claim administration. Another component of this Section is providing Registered Landscape Architect (RLA) services for all construction projects statewide, except those in the Phoenix District. The RLA responsibilities include serving as the technical resident on a project, while the RE supervising the project serves as the administrative resident. The RLA involvement begins early in the project cycle through design review of pre-award plans and continues by advising and inspecting during the construction phase. Services also include inspections to determine whether project final stabilization has been achieved to enable issuance of the project's Notice of Termination (NOT) to the Arizona Department of Environmental Quality (ADEQ) or the Environmental Protection Agency (EPA).

Value Analysis is responsible for performing Value Engineering Studies, reviewing Value Engineering Change Orders and maintaining the Construction Manual. VA studies are conducted on design projects that meet size and complexity criteria. Function analysis methodology is employed by a multi-discipline team, usually at the 30% design stage, to recommend improvements to consider incorporating in the next phase of design. Another responsibility is reviewing and tracking supplemental agreements generated due to designer errors and omissions.

The Field Reports Section processes submittals from the field, including monthly pay estimates, quantity documentation, and other project reports. Field Reports personnel check the project documentation for mathematical correctness and compliance with the specifications. They approve all Subcontractors and serve as the Labor Compliance Office. Field Reports personnel can answer questions about contract documentation and record keeping requirements.

Partnering

Although the Partnering Section is no longer part of ITD, they are responsible for overseeing the partnering program statewide. Partnering makes all arrangements for partnering workshops, including reserving workshop locations and contracting with workshop facilitators.

Statewide Project Management Group and Valley Project Management

Statewide Project Management Group and Valley Project Management are responsible for getting highway construction projects planned, designed, and built once they have been identified and approved by the Transportation Board. They manage the entire project development process, described later in this subsection. Valley Project Management oversees projects only in Maricopa County.

The Project Manager (PM) for each project is assigned from one of these two units.

District Operations and the District Offices

As mentioned earlier, the Districts are responsible for highway construction and maintenance within their respective boundaries. Each Construction Field Office within each district manages one or more construction projects for that district.

A Regional Traffic Engineer, a Regional Materials Laboratory, and other technical personnel who provide specialized services not routinely performed by the District's construction and maintenance staff support the Districts. These regional support staff may serve two or more Districts.

Most ADOT construction field personnel fall under the District Operations Group or the Phoenix Construction District, which is part of the Valley Transportation Group.

Quality

The Department defines quality as, "... *consistently* providing our *customers* products and services that meet *mutually* agreed-upon *standards*." This definition requires discussion of its applicability to highway construction.

The product or service ADOT's field personnel should be most concerned with is the highway project under construction (i.e., the actual building of the project). To construct quality into a highway project let's first talk about the customer.

Who are Our Customers?

A customer is anyone who uses or receives a benefit from the product or service you provide. In order for us to provide the highest quality work in construction, we have to think about who our customers are now and in the future. The construction of a highway project has many customers with varying needs. They include:

Organization	Who	Primary Needs
Traveling Public	motorists, truckers, mass transit	safety, convenience; easy to drive, maneuver, and navigate
Neighbors	residences, businesses, local jurisdictions	minimal or positive impact on their environment, accessibility
Government	Taxpayers	the best value for every dollar spent
	Representatives	perceived needs of their constituents are being met
	FHWA (when federally funded)	compliance with federal standards and regulations
Utilities and Local Governments	SRP, APS, Qwest, SWG, Cities, Counties, etc.	compatibility with their infrastructure and facilities
ADOT	ADOT's Project Manager	project under construction satisfies the project's design scope, completion schedule and overall ADOT budget
	Technical Groups	design and construction standards are met or exceeded
	State Engineer & Director	conformity to current public policy
the District	District Engineer	compliance with ADOT standards and District policy
	Maintenance Engineer and Foreperson	low maintenance costs (few repairs and preventative actions needed)
	Regional Traffic Engineer and Traffic Technicians	traffic control devices (sign, striping, lights, & signals) function effectively and efficiently

With so many customers and so many needs, it's easy to see why getting high quality in a constructed highway project is at the very least "challenging." Fortunately, many of the needs complement each other and very few conflict. For example, an easy-to-maintain project is usually a good value to taxpayers. And everyone wants a safe highway that is compatible with the local community.

Consistency

The second step in defining quality is to describe the meaning of consistency.

Consistency, as applied to highway construction, means achieving the same results time and again across geographic boundaries. When you provide a product consistently, you are living up to the customers' expectations for receiving the same service as before. Consistency requires effective communication with customers and suppliers as well as knowledge of ADOT's policies and procedures related to construction.

To achieve quality, ADOT must be consistent. Consistency ensures fairness to all our customers throughout the state and to our suppliers (Construction Contractors, Subcontractors, and Material Suppliers). Carefully following the plans and specifications ensures consistency. Project specific requirements (for example, environmental or geological conditions) are contained in the project Special Provisions, which must be consistently enforced during construction. Choosing to ignore some specifications and enforcing others does not provide quality for all our customers.

Consistency fosters economy. When Contractors know they are going to build to the same standards throughout the state, they are less likely to add contingencies to their bid for the unexpected. Furthermore, Contractors who bid work in only one part of the state are more likely to compete elsewhere if they can expect the same treatment from all Project Inspectors and the District Offices.

Mutuality

The third step in defining quality is to clarify the word "mutually." Mutually means both the customer and supplier agree upon how the product or service is to conform to the customer's requirements. They must agree on the standards to be used to measure that conformance.

Customer agreement can sometimes be fleeting during construction. As a project is transformed from paper to concrete, customers can now actually see what the final results are going to look like and change their requirements. Good customer service means that Resident Engineers (REs) and Project Supervisors don't follow blindly what is in the Project Plans and Special Provisions. They continually ask themselves, "Is what I'm building really going to meet the needs of all my customers?" Then they communicate with those customers to reach a mutual agreement.

Standards

The fourth step in understanding the Department's definition of quality is to discuss "standards" or "baselines." A baseline is a customer requirement that can be measured, quantified, or compared to something else. First, we have to know each customer's standards and be able to measure those standards to determine whether they are being met.

In highway construction there are two sets of standards. There are formal standards which are the contract documents (the Standard Specifications, the Project Plans, the Special Provisions, Standard Drawings, and other documents referenced in the contract). Then there are informal standards—the written or unwritten policies and procedures used to implement the formal standards. These standards can be found by referring to the Construction Manual and by talking to the customers of the project like the District Engineer (DE) and the Regional Traffic Engineer. Projects must be built to both sets of standards to achieve quality. That is why Resident Engineers, Inspectors, and Project Supervisors who rely too heavily on project plans and specifications sometimes have difficulty in reaching the appropriate level of quality for both the Department and its customers. The degree to which a project strictly conforms to the contract documents should not be the only measure of quality.

ADOT is planning to set up quality indexes for each project. Important standards like workmanship, materials, timeliness, total cost, construction zone delays, and accidents will be tracked, measured, and compared. That way, we can more easily determine how well we are meeting our customers' expectations.

ADOT's Project Development Process

ADOT construction personnel should have a basic understanding of how highway projects are initiated, developed, and placed into service. The actual construction of the project is just part of the entire process. An understanding of this process will give Inspectors, Project Supervisors and Resident Engineers a better appreciation of who their customers are (besides the taxpayers) and how to best serve them.

The project development process or highway development process (as it is sometimes called) begins with a traffic, safety, or environmental problem that needs to be solved. For example, a passing lane may be needed on a rural highway to relieve congestion and reduce accidents. The problem is usually identified locally by ADOT's Regional Traffic Engineer, a maintenance foreperson, the District Engineer, a city or county Engineer, or an elected official. Some projects are initiated by the Department's Transportation Planning Division who look at traffic patterns and highway safety on a statewide basis. Most projects are initiated at the district level.

Since there are usually more projects identified than money to build them, a process of prioritizing each project, determining its overall scope, and estimating its costs is initiated. After public hearings, the results are published in the Five-year Highway Construction Program, identifying which projects will be constructed in the next five years. After a project is approved for the five-year program, it advances to the design and preconstruction phases. Here the project is turned from an abstract idea into engineering drawings and contract specifications. Additional right-of-way is purchased, as needed, and a Construction Contractor is selected.

The next step is to build the project. The Contractor moves on to the project site and an ADOT Construction Field Office oversees the construction work. Their job is to inspect the work, pay the Contractor, and ensure the project serves the public as intended.

The final steps are to open the project to the public and to maintain the project or facility so it performs as needed.

The Project Development process is complicated and dynamic. An entire manual has been devoted to describing and managing this process (see the references at the end of this chapter). Because of its complexity, ADOT assigns a Project Manager to each project whose primary responsibility is to manage and guide the project through this process. The Project Manager achieves this by controlling a project's scope, schedule, and budget. *Scope* refers to what the project is intended to do and what major components will be used to achieve the project's objectives. *Schedule* and *budget* refer to a project's overall development, design, construction schedule, and costs.

The Project Manager

The Project Manager is an important source of information for the Resident Engineer (RE) concerning the history of the project before construction, the reason for its initiation, and the problems it is trying to solve. The Project Manager can identify the major team members involved in project development, what agreements were made, and who to contact. The Project Manager oversees the entire development and design process and can help clarify issues in design and engineering that may arise in the field (or can at least put you in touch with someone who can).

During construction, the Resident Engineer serves as the technical leader for the project in charge of all construction activities. On the other hand, the Project Manager monitors construction costs and compares them to the Department's overall budget for the project. The Project Manager monitors the construction activity for progress toward meeting scheduled milestones established by the contract documents. Usually these milestones are established because of agreements with other project stakeholders, such as local governments,

Indian tribes, developers or other state and federal agencies. The Project Manager is trying to ensure ADOT keeps its agreements. Finally, the Project Manager ensures that none of the changes made during construction affect the overall scope, schedule, and budget of the project.

If the Resident Engineer has not followed the project throughout its development, it is the Project Manager's responsibility to brief the Resident Engineer on major project issues and important milestones prior to construction. The Project Manager has the responsibility for coordinating communication between the Resident Engineer (or Project Supervisor), as well as design and development staff regarding plan interpretation and design issues arising from the Contractor's operations.

It is important for the Resident Engineer and Project Supervisor to understand the role of ADOT's Project Manager. In a sense the Project Manager is a customer. The Resident Engineer and Project Supervisor construct the project and provide the Project Manager with expertise in construction methods and contract administration policies and procedures. The Department requires the Resident Engineer and the Project Manager to work as a team. The Project Manager represents the design and development aspects of the project, while the Resident Engineer represents the construction aspects. The Project Manager needs to assist the Resident Engineer when:

- post design services are needed for shop-drawing and specialty-item reviews;
- contract documents need to be clarified and interpreted;
- coordination with other project stakeholders is required; and

background on how the project was designed and developed, and why the contract documents were written the way they were.

Similarly the Resident Engineer needs to support the Project Manager in the overall management of the project during construction by:

- discussing any contract changes to the project that would change the scope of the project;
- providing the Project Manager with construction cost data and change order information;
- involving the Project Manager in any changes to the project milestones or contract completion date; and
- providing the Project Manager with design and contract specification changes that can improve the project development process on future projects.

Communication

Communication was previously mentioned as one of the important activities needed in achieving quality in construction. Of all the activities the Resident Engineer and Project Supervisor perform, communication is one of the most important.

Resident Engineers and Project Supervisors are continually in contact with many different people during the construction of a highway project (such as the Contractor's Superintendent, the general public, the Project Designer, the District Office, or the Project Inspectors). Referring to the duties of a Resident Engineer in Subsection 105.02 of this manual, you will find that oral and written communication is a fundamental skill a Resident Engineer needs to have. The effectiveness of a Resident Engineer can be directly linked to that person's communication and interpersonal skills.

Good communications can eliminate, or at least help to solve, many construction problems. Why is that?

Most problems in construction can be attributed to misunderstandings, lack of understanding, or ambiguity. The Project Plans and Special Provisions are communication tools that tell the Contractor how the Department wants something built. A major responsibility of ADOT's field staff is to help convey that message. This is done through oral and written discussions with the Contractor.

Preparation is important before communication. Think the matter through before you speak or send a letter. Make use of all available information including the Project Plans, Standard Specifications, Special Provisions, the Construction Manual, the Materials Manual, and other publications regarding the subject. Consider the opinions of other people, especially those close to the problem or an expert on the subject. Thorough homework will help you to communicate precisely and convincingly.

Establish the aim or purpose of the communication. Do you want approval, comments, concurrence, or action? Are you making a recommendation or just informing? Knowing your purpose will help you stay focused while you communicate.

Decide on what communication medium you will use: telephone, fax, letter, e-mail, or in person. Personal contact is the most effective means of communication because it permits the spoken word to be emphasized, assisted by gestures and expressions. If personal contact is not possible for discussing important issues, make a telephone call followed by a letter or memorandum. This repeated emphasis ensures your message is clearly understood. Few individuals like to be informed of something only by letter. An example is the receipt of a letter from the Regional Materials Laboratory recommending rejection of an out-of-specification material. The report may be correct, but the receiver will feel better if previously informed of the situation.

It is important to keep in mind that a letter or telephone should not communicate everything. There are limits on the amount and quality of information these mediums can convey. Using the wrong communication medium does result in misunderstandings, incomplete information, and rework.

Follow up on the communication. Make sure it was received and see if it was understood. In due time remind the receiver that action is necessary; don't just wait indefinitely for others to act. If the reply is important to your project, you owe it to yourself and the Department to see the matter through to resolution.

Communicating with different groups of people requires you to adjust your communication style. For instance, using highly technical terms is appropriate when talking to an ADOT Engineer but inappropriate when talking to the public. Here are some guidelines to help you communicate better with these different groups.

Communicating with the Public

When you communicate with the public you represent ADOT. Whether you're answering a telephone call, writing a letter to local residences, or speaking at a public meeting, people will identify you as ADOT. These people are our customers. They count on us for good service and responsiveness.

How you deal with the public reflects on the entire Department. Always be courteous and respectful to the public; never argue or raise your voice to them. You are considered a public official who is expected to act professionally and honorably with the public at all times.

Try to avoid getting too technical with the public, they often do not know as much about highway construction or your project as you do. Talk to them as you would talk to a spouse or a neighbor. Whatever you do, don't hide behind policies and procedures. If you can't give them a reasonable explanation on ADOT procedures, then get them in touch directly with the person who can.

Finally, be helpful to them; do not just pass them off to the next person in the ADOT system. Instead, help them through the process. If you can be of assistance to them in some unexpected way, we will keep these people as our customers.

ADOT offers classes on dealing with the public and communication skills that we strongly encourage all field staff to attend.

Communicating with the Media

A. INTRODUCTION

The Arizona Department of Transportation cooperates as fully as possible with the media. There are several reasons for this. As public servants we have an obligation to the public to keep them informed. Members of the news media consider themselves to be public servants as well. They serve the public's "right to know" and have a legitimate right to inquire about projects and programs that are funded by and affect the public. Additionally, we rely on the media to get information to the public about projects and issues important to ADOT, or concerning public safety and convenience (such as road closures and traffic delays).

1. Communicating with the media is very different from speaking at a public meeting or one-on-one communication with someone from the public. First of all, what you say to the media will reach a much larger audience. Secondly, there is no feedback in the communication. The public has no immediate way of asking you to clarify what you say, and you have no way of knowing if they correctly understand the information conveyed. Finally, and most important, there is now an intermediary who controls the communication channel between you and the public. This intermediary can conceal, distort, or misinterpret what you say and convey a message to the public quite different than what you intend. Communicating with the media requires a high level of skill and experience to be effective. The Department's Communication and Community Partnerships (CCP) Office has specially trained staff whose primary duty is to talk to the media.

B. PROCEDURES

The project office can handle routine requests regarding construction closures and openings. However, it is preferred that these inquiries be directed to the CCP Office. Ask the media representative to direct all future inquires to the CCP Office.

Other types of requests, regardless of how small or how quickly the media wants a response, should be handled by contacting the CCP Office first. They are a resource to the project team, and they will ensure that a clear, accurate, and consistent message is sent to the public about your project. If the media contacts you regarding your project, immediately contact the CCP Office at 712-7355 or after business hours and on weekends the ADOT Traffic Operations Center 257-1563. The CCP Office has someone on-call 24 hours a day, 7 days a week to handle media requests.

Contacts with the media initiated by ADOT personnel or consultants require the prior concurrence of the CCP Office.

C. MEDIA INTERVIEWS

The CCP Office can coach you through a media interview when it is in the Department's best interests for you to talk directly to the media. They can help you formulate what you want to say to the media and advise you about how to answer questions. In some cases a conference call can be set up among you, the media representative,

and the CCP Office so that they can monitor the questions from the media in an effort to ensure fairness and accuracy.

One important area that you should refrain from discussing with the media is ADOT policy and procedures. The CCP Office should answer questions regarding safety standards, closure notification requirements, administrative procedures, traffic policy, or anything else where the Department decides how something is to be done. Their job is to ensure that we accurately and consistently convey this type of information.

D. MEDIA INACCURACIES

You can help the Department by reporting to the CCP Office any inaccuracies you hear or read in the media concerning ADOT, its operations, or construction activities. The CCP Office can try to clear up the inaccuracy and get a correction released. Be prompt when reporting these discrepancies since the media is unlikely to change a story or report once it becomes a few days old.

Communicating with the Contractor

Historically, relations between ADOT and the Contractor have tended to be adversarial. The inevitable results of such relations have been cost overruns, construction work that is just barely in compliance, delays in project completion, and an increase in Contractor claims. In response to these problems, ADOT instituted voluntary partnering in 1991.

Along with the Covenant of Good Faith and Fair Dealing (see Subsection 104.01 [A]), partnering attempts to put the "handshake" back into construction contracts. Refer to Section 104.01(B) of the Standard Specifications (and the corresponding subsection in this manual) for details concerning partnering.

ADOT field staff should keep in mind at all times that they are representatives of the Department and, as such, need to conduct themselves in a courteous and businesslike manner in all relations with the Contractor. In dealing with the Contractor, Department employees should display a spirit of partnering and cooperation in obtaining first-class work at a minimum cost.

Employees should maintain a fair, impartial attitude without displays of emotion and must not engage in heated arguments with the Contractor's personnel. Should a disagreement occur that cannot be resolved to everyone's mutual satisfaction, the disagreement should be escalated to the next level as soon as possible. Any decision rendered should be accepted in a positive businesslike manner.

Employees whose assignment involves direct relations with the Contractor must have a clear and thorough knowledge of the plans and specifications that govern the contract. Evidence of this knowledge gains the Contractor's respect when questions are asked regarding contract interpretation.

Alleged shortcomings of the Contractor's personnel or work methods are to be discussed only within the Department. Derogatory remarks, if made publicly, can be construed as libelous or defamatory and may result in liability for the Department and the individual.

Communicating with the District

Most construction related communications with the District Office involve project problems and progress, supplemental agreement requests, and construction policy and procedures. The aim of your more important communications with the district may involve:

- an approval or concurrence,
- a clarification,
- information about procedures (guidance), or
- escalating an issue for a decision.

Usually these types of communications require you to convey large amounts of information to the District about the project or certain project issues. Often misunderstandings and communication rifts develop between the District and the Field Office when the wrong communication medium is used.

For example, a Resident Engineer invites misunderstanding and frustration when he or she attempts to explain the merits of a $70,000 claim involving both a delay and a differing site condition by cellular phone. Some communication needs to be done face-to-face or in writing in order to be effective.

A face-to-face meeting with the District Engineer is the best way to clear up any misunderstandings about your project. Face-to-face meetings are best used when:

- the topic is controversial and requires discussion, clarification or debate;
- the topic is complex with a high probability of being misunderstood;
- a dispute or behavior now involves people emotionally; or
- the amount of information is too extensive to write about.

Never minimize the importance of these meetings. However, other forms of communication (fax, E-mail, telephone) are more efficient when:

- the topic is not controversial and a one-on-one discussion is all that is needed;
- the topic is simply an exchange of information where there is a low probability of being misunderstood;
- human behavior or peoples' emotions are not an issue; or
- the amount of information can be easily faxed or e-mailed.

There is another important communication rule to remember when dealing with the District: promptly inform the District of significant project issues. This communication is important because the sooner you can get the input of the District Engineer and his or her staff, the more effectively and quickly both the Field Office and the Contractor can resolve project issues. The Contractor always has the right to escalate an issue to the District Engineer for further consideration, even after prior input from the District Engineer and the District.

Communicating within the Field Office and Empowerment

Within the Construction Field Office, good communication between the Resident Engineer and project personnel is essential. Employees must know what their duties and responsibilities are and, equally important, they must be empowered to handle these responsibilities. The Resident Engineer should brief all employees relative to their duties, responsibilities with other personnel, the schedule of operations, the status of the contract, and any other information that will enable them to do their jobs better.

Employees must be empowered to solve problems as long as they remain within the limits of their authority. Successful empowerment requires accountability and communication about actions taken. Issues that cannot be resolved at the first level must be escalated promptly to the next level of authority to avoid delays to the project. Once a resolution has been reached, the Resident Engineer should explain the resolution to all staff members, giving the reasons for the resolution and emphasizing the teamwork that went into it. This is important so that all employees will understand and help support the outcome.

Communicating with ADOT Technical Support Staff

ADOT technical groups and individual employees must cooperate with each other in order to achieve quality projects (see the previous section on quality). The prompt exchange of information between team members is a key ingredient for success in this area. To avoid having a reputation for being a large bureaucratic organization that is slow to respond, ADOT's field staff should take full advantage of partnering and ADOT's project management system to help improve the Department's responsiveness.

Communications with other ADOT sections can be strained when a project has a change that requires an amendment or exception to ADOT design policies, design standards, or technical specifications. In this case, the Resident Engineer may be asking an ADOT technical section why a certain specification is written the way it is or whether an engineering detail can be modified. Many times it is necessary to make these inquiries on behalf of the Contractors.

Before you talk to ADOT's technical staff about a construction problem, make sure you fully understand the situation in the field, what the Contractor is asking for and why. Meet with your Inspectors and discuss the Contractor's request. Carefully review the Project Plans, Special Provisions, Standard Specifications, and the Construction Manual before you call.

When you talk to ADOT's technical staff, keep in mind that the project team (which includes the Contractor) is counting on you to fully communicate their concern about the issue with their same eloquence and clarity. You are representing the team so don't let your own personal views distort the communication.

At the same time, your response to the Contractor and the rest of the team must be equally as clear and expressive as the response you received from the technical section.

In this situation you are acting as a mediator. You must be fair and impartial, yet help define the issues, eliminate obstacles to communication, and explore alternatives.

This impartiality must remain as long as there is a dialogue continuing between the parties. However, once the dialogue has ended and the Department has made a decision, you are expected to fully support and implement the Department's decision.

It is very important that we demonstrate to the Contractor that once the project team makes a decision, we are united in supporting and implementing that decision. This is in the Contractor's best interest because it removes any lingering doubts about whether more of the Contractor's time and money should be spent pressing an issue.

Communicating the Contractor's Technical Proposals

A more formal means of communication with ADOT's technical staff on project issues is the Contractor's technical proposal. This is a written proposal by the Contractor asking for an exception or a change to the Standard Specifications, Standard Drawings, Special Provisions or Project Plans for work already performed or about to be performed. The Resident Engineer may ask for this proposal whenever the Contractor's requested exception or change is significant enough to require an in-depth engineering review.

The purpose of the Contractor's proposal is to provide the Department with the information necessary to properly evaluate the effects of the Contractor's proposed change. Sometimes Contractors have difficulty submitting good technical proposals in a complete and timely manner. Reasons include:

- lack of engineering expertise of the Contractor's staff;
- insufficient time to put a proposal together before other project work becomes delayed;
- lack of consistency among Resident Engineers and the districts on proposal standards; and
- lack of clarity as to what the Department really wants in a technical proposal and how it should be presented.

Contractors often complain that it takes a long time for the Department to review and approve proposals. ADOT's Technical Managers complain that the reason it takes so long is because Contractors provide incomplete information. To improve this process, the following is a suggested minimum that should be included in every Contractor's proposal.

The Contractor's proposal must be in writing and should include:

- a description of the corrective action; methods (i.e., equipment and materials required, using drawings, sketches, and a narration if necessary);
- an explanation as to why it is not feasible to follow the requirements of the contract documents;
- a discussion concerning why the Department should make this change, including an engineering analysis, cost analysis or other justification; and
- a deadline for responding to the proposal.

The above is only a recommended format. Depending on the issue, every proposal will require a different approach, level of detail, and review process.

One of the most important things the Resident Engineer can do to improve this process is to find out ahead of time what the Contractor is going to need in the proposal (what drawings, calculation, test results, etc.). Write a letter to the Contractor listing these requirements. Use the four items listed previously as a starting point. It is important to talk to the people who will be reviewing and approving the proposal and find out what they want. This approach will help avoid the endless cycle of resubmittals that can accompany a Contractor's proposal and will lessen the bureaucratic paper shuffling for everyone.

The Resident Engineer should give technical guidance to the Contractor in developing a proposal. This doesn't mean doing the engineering for the Contractor, but helping with the documentation and sources of information, then providing timely feedback to the Contractor as the proposal is being developed. The Resident Engineer should guide and support the Contractor through this process, even when the Resident Engineer doubts the proposal's merit. However, the responsibility for submitting a complete and technically accurate proposal is still the Contractor's.

Resident Engineers need to work with proposal reviewers to ensure proposals are evaluated and returned to the Contractor in a timely manner.